Health IT: Meaningful Use and Beyond

Biomedical Informatics Without Borders

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Office of the National Coordinator for Health Information Technology (ONC)

June 21, 2010

Requirements for Personalized Health Care

- Data in electronic computable form
- The "right" data in standardized representations
- Ability to move the data securely from where it is initially collected to where it is needed
- Ability to represent best practice and translate that into individualized advice (decision support)
- An infrastructure that:
  – Supports research to generate new knowledge
  – Enables translation of new knowledge into care practice

President Obama's First Weekly Address
Saturday, January 24th, 2009

"To lower health care cost, cut medical errors, and improve care, **we'll computerize the nation's health records in five years,** *saving billions of dollars in health care costs and countless lives."*

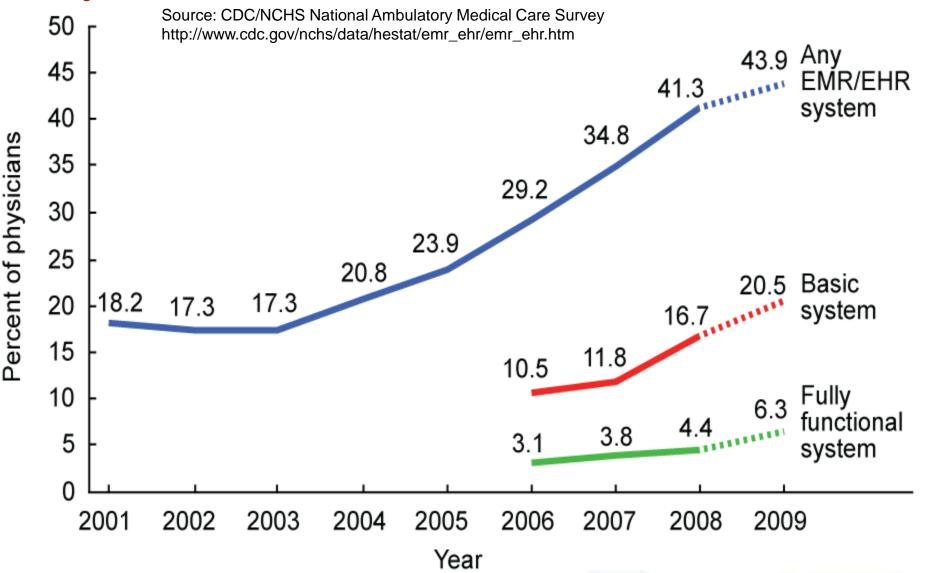Department of Health & Human Services
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EHR Use by U.S. Office-based Physicians

Source: CDC/NCHS National Ambulatory Medical Care Survey
http://www.cdc.gov/nchs/data/hestat/emr_ehr/emr_ehr.htm

American Recovery and Reinvestment Act (ARRA)

TITLE XIII—HEALTH INFORMATION TECHNOLOGY

SEC. 13001. SHORT TITLE; TABLE OF CONTENTS OF TITLE.

(a) SHORT TITLE.—This title (and title IV of division B) may be cited as the "Health Information Technology for Economic and Clinical Health Act" or the "HITECH Act".

TITLE IV—MEDICARE AND MEDICAID HEALTH INFORMATION TECH-NOLOGY; MISCELLANEOUS MEDICARE PROVISIONS

February 17, 2009

OFFICE OF THE SECRETARY

OFFICE OF THE NATIONAL COORDINATOR FOR HEALTH INFORMATION TECHNOLOGY

(INCLUDING TRANSFER OF FUNDS)

For an additional amount for "Office of the National Coordinator for Health Information Technology", $2,000,000,000, to carry out title XIII of this Act, to remain available until expended: Pro-

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The HITECH Act in One Slide

1. National coordination through an ONC in statute

2. Payment incentives to providers and hospitals who achieve *meaningful use* of certified EHRs (one estimate of net cost: $17.2 Billion)
   - Beginning 2011
   - Through Medicare or Medicaid

3. Supportive programs (grants and contracts)
   - Three mandatory grant programs; others discretionary

4. Enhanced privacy, security, and access provisions
   - Right to a copy of an individual's data in electronic form

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Meaningful Use (MU) in One Slide

- MU: those uses of health IT that will improve individual and population health
- HITECH requires that MU include:
  – Adoption of certified EHR products
  – Health information exchange
  – Quality reporting
- MU policy priorities (from HIT Policy Committee):
  – Improve quality, safety, efficiency and reduce disparities
  – Engage patients and families
  – Improve care coordination
  – Improve population and public health
  – Ensure adequate privacy and security
- MU Stage 1 (2011) is being defined through a formal rulemaking process led by CMS
  – Final rule expected soon

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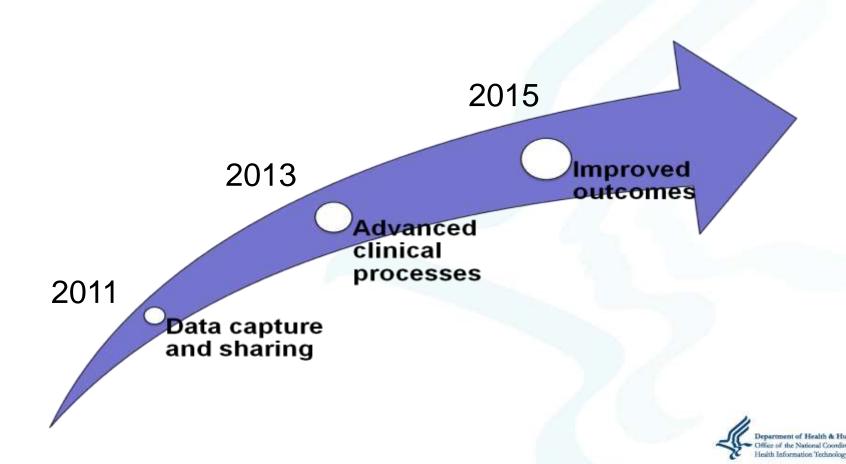
Escalation of "Meaningful Use" Criteria

2011

Data capture and sharing

2013

Advanced clinical processes

2015

Improved outcomes

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MU Stage 1 As Currently Proposed

- 21 "objectives" address both eligible providers (EPs) and hospitals. Examples:
    - Use Computerized Physician Order Entry (CPOE)
    - Implement drug-drug, drug-allergy, drug-formulary checks
    - Maintain an up-to-date problem list of current and active diagnoses based on ICD-9-CM or SNOMED CT®
    - Maintain active medication list
    - Maintain active medication allergy list
- Four additional objectives for EPs only. Example:
    - Generate and transmit permissible prescriptions electronically
- Two additional objectives for hospitals only. Example:
    - Provide patients with an electronic copy of their discharge instructions and procedures at time of discharge, upon request
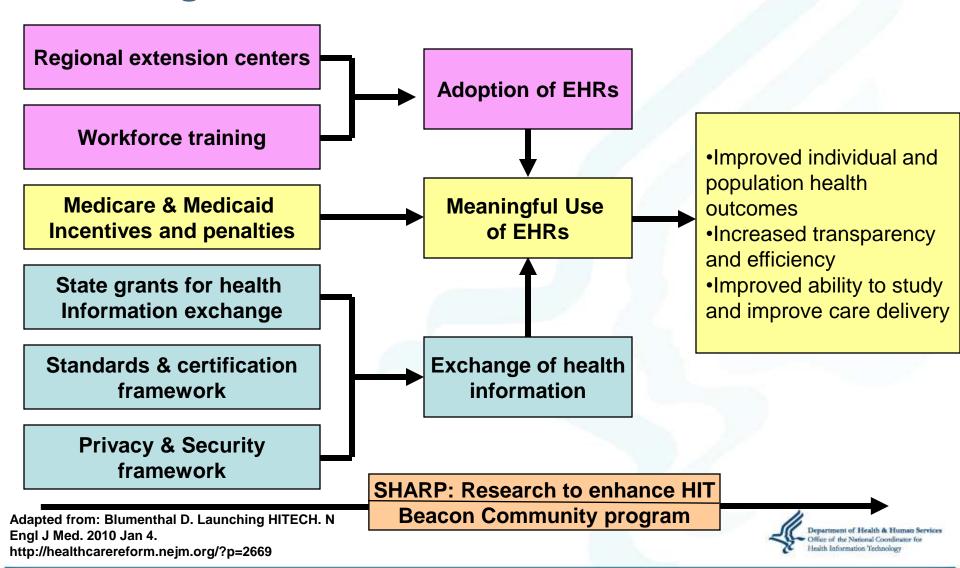
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ONC/CMS Program to Get to Meaningful Use

| Regional extension centers | → | |
| Workforce training | | **Adoption of EHRs** |

Adoption of EHRs →

Medicare & Medicaid Incentives and penalties	→	**Meaningful Use of EHRs**
State grants for health Information exchange		
Standards & certification framework	→	**Exchange of health information**
Privacy & Security framework		

Meaningful Use of EHRs →
- Improved individual and population health outcomes
- Increased transparency and efficiency
- Improved ability to study and improve care delivery

SHARP: Research to enhance HIT
Beacon Community program

Adapted from: Blumenthal D. Launching HITECH. N Engl J Med. 2010 Jan 4.
http://healthcarereform.nejm.org/?p=2669

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The Nationwide Health Information Network (NHIN)

A set of **policies**, **standards** and **services** that enable the Internet to be used for secure and meaningful exchange of health information to improve health and health care.

Services

Standards

Policies

Trust Fabric

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NHIN Exchange and NHIN Direct

- NHIN Exchange (original project begun in 2005)
  - Group of participants who have agreed to be part of NHIN Collaborative
  - Focus on patient lookup & summary record exchange
  - Several important efforts live
    - Social security-MEDVirginia
    - VA-DoD-KP
- NHIN Direct (new initiative)
  - Designed to support 2011 MU exchanges
  - Simpler "push" scenarios
  - Initial implementation this fall

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Taking Clinical Decision Support to National Scale

- Two key contracts funded by AHRQ:
    - CDS Consortium
    - GLIDES

- Contract recently awarded to Rand Corporation in partnership with Partners Healthcare
    - Management and dissemination of medical knowledge
    - Identification of most important DDIs

- Structured Care Recommendations project (Thomson-Reuters and collaborators)
    - "Pseudo-code" representations of medical logic for consistent implementation across vendor systems

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Requirements for Personalized Health Care

Meaningful Use

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Beyond Meaningful Use

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The "Element" View
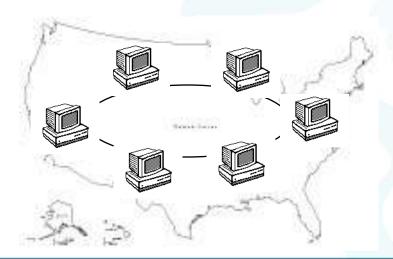
Element 1: Adopted Health IT Systems

Element 2: A Trusted Pathway to Exchange Information

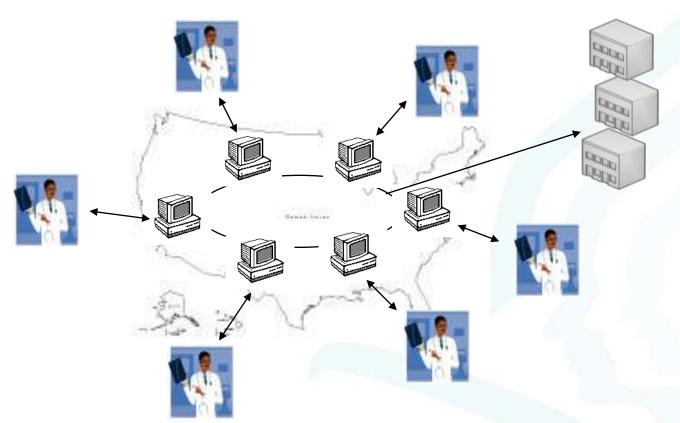# Combining Elements 1 and 2 Enables Meaningful Use

1. Adoption of certified EHRs
2. Health information exchange
3. Quality reporting

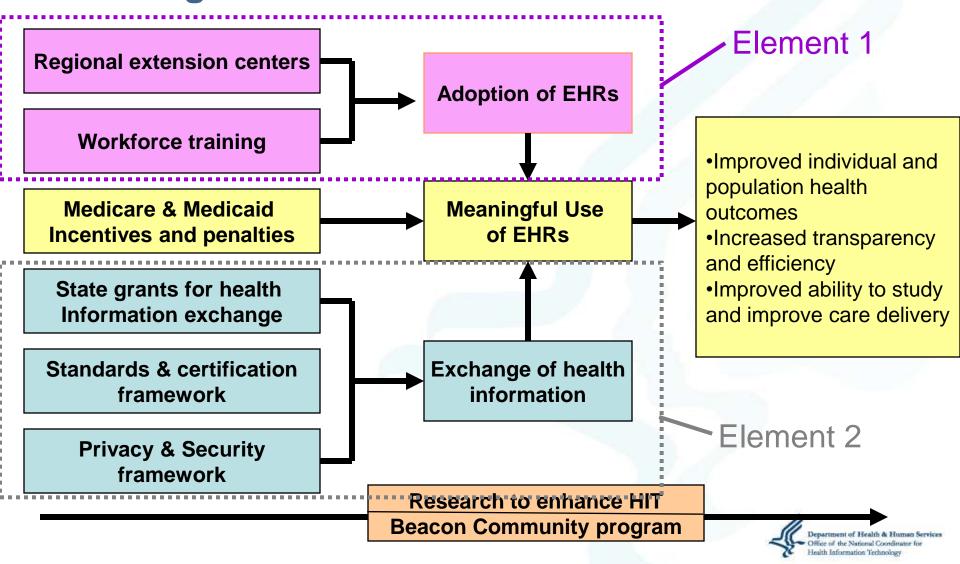Department of Health & Human Services
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ONC/CMS Program to Get to Meaningful Use

Element 1

Element 2

- Regional extension centers
- Workforce training
→ **Adoption of EHRs**

Medicare & Medicaid Incentives and penalties → **Meaningful Use of EHRs**

- State grants for health Information exchange
- Standards & certification framework
- Privacy & Security framework
→ **Exchange of health information** → **Meaningful Use of EHRs**

Research to enhance HIT
Beacon Community program

•Improved individual and population health outcomes
•Increased transparency and efficiency
•Improved ability to study and improve care delivery

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Beyond Meaningful Use: Elements 1 and 2 are not Enough!

Research Institute

State Public Health

Community Practice

Federal Agencies

Beacon Community

Research?
Public health?
A "learning system"?

Integrated Delivery System

Health Center Network

Health Information Organization

Need an "Element 3"

Research Institute

State Public Health

Community Practice

Federal Agencies

Beacon Community

3

Integrated Delivery System

Health Center Network

Health Information Organization

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Element 3 in Words

Highest level goal:

- By 2015, a federated, integrated learning system for health care quality improvement and population health.

Term Definitions:

- <u>Learning system</u>: Data related to individual patients and the care they receive is continuously aggregated, analyzed, and thereby transformed into knowledge that is used to improve care.
- <u>Population health</u>: Activities customarily associated with public health; basic, translational, and clinical research; and emergency preparedness.
- <u>Federation</u>: Decision makers can assemble from different organizations and locations the data they need without knowing where the relevant data reside.
- <u>Integration</u>: Ability to merge data and analyze them in unanticipated ways to discover relationships and generate knowledge.

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Element 3 Scenario

- Any authorized person could broadcast a question and have that question applied to relevant data distributed across the nation.

- If the question is "simple" (e.g. <numerator>/<denominator>), the answer would be returned automatically.

- If the question is more complicated, sites across the country with relevant data could return de-identified cases for analysis by the originator of the question.

Observations

- Meaningful Use is necessary but not sufficient for E3
  - *But we can leverage meaningful use!*
- E3 can't be built on data feeds to persistent databases
- The ONC interoperability framework and services built into the new NHIN can support E3
- There are many E3 players already
  - Government has the biggest business case
  - Some will have negative business case to participate

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Components of an E3 Plan

- Recognition of the need
  - All data are fundamentally reusable
- A single technical architecture
  - Not N architectures for N domains
- Explicit data definitions and standards
- A policy and governance structure
  - Resolve consent and data ownership issues
  - Needs a "home"

Multi-Stakeholder Workshops:
A First Step

- Convened by IOM

- Sequence of three workshops: July, Sept, Oct

- Report by December 31, 2010

Requirements for Personalized Health Care

Elements 1 and 2: Meaningful Use

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Element 3: Beyond Meaningful Use

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Thanks and Write to Me:

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Additional Slides

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- Services
- Standards
- Policies
- Trust Fabric

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